MULTIMEDIA UNIVERSITY

STUDENT IDENTIFICATION NO

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FINAL EXAMINATION

Trimester 3, 2018 / 2019

BOM7094 – OPERATIONS MANAGEMENT

21 MAY 2019
9.00 A.M – 12.00 P.M
(3 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 7 pages (including this cover page).
2. Answer **ALL** questions. All questions carry equal marks.
3. Please write your answers in the Answer Booklet provided
4. You are allowed to use non-programmable calculator.

Answer ALL questions. All questions carry equal marks. (20 x 5 = 100 marks)

Question 1

a. Read the case and answer the question below:
Zoho, a global software products major with a suite of SaaS applications and online productivity tools, has acquired Bengaluru-based ePoise Systems, a hiring automation product start-up for an undisclosed amount. Zoho's 40 plus business applications in areas of CRM, HR, Finance, Office productivity and Customer Service are used by 45 million users globally. They are available separately and under a single user license as Zoho One.

Founded in 2013 by Sachin Agrawal and Bishan Singh, ePoise automates multiple screening steps for each role, including a set of assessments leading to a video interview, thus bringing significant efficiency to the hiring process for high volume recruiters, says a press release from Zoho. "The combination of Zoho's global footprint and depth of product portfolio and ePoise product capability and talent will add value to our customers. We are open to such technlogy-focused acquisitions. We look for whether the acquisition plays well into our existing product portfolio, and more importantly, if there is a cultural fit at a team level," said Sridhar Vembu, CEO, Zoho. "We are excited about being part of Zoho. It gives us an opportunity to make an impact at scale." said Sachin Agrawal, CEO of ePoise.

What are the value additions that Zoho propose to offer to customers? Justify their propositions.

(10 marks)

b. Read the case and answer the question given below:
In the battle between the OTT players, Amazon could soon be edging ahead of arch rival Netflix by turning itself into a content platform that will not only have movies and TV shows, but also access to television channels in India. Amazon Prime Channels is already a popular offering from Amazon in the US, UK and Japan and it could soon be coming to India. Netflix, on the other hand, has no such platform even in other markets.

"In the US, UK, Japan and in a bunch of other countries, subscribers of Amazon Prime can subscribe to HBO, CBS, Showtime, Starz, through their Amazon Prime subscription. So instead of paying my cable or satellite provider, you can pay for channels like HBO through Amazon. Then all the HBO content gets added to your Prime Video app. It has done really well. It is coming to India soon," James Farrel, Head of International Originals, Prime Video, told. With Channels, Amazon may get an edge over Netflix in India but it will still have to compete hard with other platforms that already offer live TV streaming. Hotstar for example, also offers 33 live channels on its platform, primarily from its own group companies.
What is the operations strategy adopted by Amazon Company to offer TV related shows in India? What are the advantages of the same?

(10 marks)

Continued..

Question 2

a. Read the case and answer the question below:

Volkswagen brought back the spirit of the Californian sun. I.D. Buggy is the latest vehicle from Volkswagen designed to show off the capabilities of VW's new battery-powered platform that will underpin a range of battery-electric vehicles the company plans to bring to market. The car company has already released a family of electric cars all under an I.D. branding. The electric drive platform the car is built on is called the MEB (Modulare E-Antriebs-Baukasten) and VW has forecast it will sell 10 million cars using this technology.

Also known as a beach buggy, a dune buggy is a motor vehicle with large wheels and wide tires that allow for use on sand dunes and beaches. The original version is said to have been invented in 1964 by Californian Bruce Meyers who recognized the unusual suspension of the VW Beetle and its rear-sited engine as perfect for better comfort and grip on sand. After bolting his own fiber-glass shell design to a shortened VW floorplan, the "Meyers Manx" was born. It then gained fame by beating motorcycles in races across long sandy stretches.

i. How does Volkswagen use design strategy to re-enter the market? What are their repercussions?

(10 marks)

b. We as consumers may never have given much thought to logistics when we order food, clothes and other necessities online. However, the truth is if the logistics are crippled then the entire experience of seamless online or offline purchase goes for a toss. For start ups, broken logistics is a nightmare to have. For them to make a maximum market impact, they need to create and sustain a super efficient logistic system.

How can the logistics improve the performance of the supply chain?

(10 marks)

Question 3

a. The manager of an assembly line took 100 samples each day for 10 consecutive days to identify the assignable causes for failure. The number of defectives on each day noted is given below.

Continued..

Sample day	No. of defectives
1	6
2	8
3	4
4	2
5	3
6	0
7	5
8	7
9	9
10	7

i. What would be the **1, 2 & 3** std. deviation control limits?

(5 marks)

ii. Comment on the data points in the control chart and the process control in the chart.

(5 marks)

b. McGraw Hill Inc has its actual sales of its books for the past 12 months.

Sno	Month	Demand (000s)
1	Jan	42
2	Feb	45
3	Mar	40
4	Apr	46
5	May	48
6	Jun	47
7	Jul	49
8	Aug	52
9	Sep	55
10	Oct	55
11	Nov	60
12	Dec	65

Continued..

i. Using the trend line method, develop a trend line model for the same.

(7 marks)

ii. Use the model to forecast for the next month.

(3 marks)

Question 4

a. PolicyBazaar's parent company, EtechAces Marketing and Consulting, launched its own online-to-offline healthcare venture, Docprime, in August 2018. Docprime currently has two main verticals – online doctor consultations, and clinic management, which includes digitising of medical records – both fashioned on the Ping An model. In fact, Docprime insiders say that before it was launched, teams from PolicyBazaar and Ping An held several meetings to understand the model and how it could be replicated in India.

A business model from another country and implemented in India has little likelihood of succeeding without localisation. Docprime's B2B division - management of clinics - continues to hold high strategic value for the business. The platform, currently, is essentially a queue management system and, Ashish says, will remain so this quarter (ending March 2019). In coming quarters, it is expected to evolve as a complete management system with digitisation of customers' records.

"Currently, the incentive for the doctor to digitise records is missing," says Ashish on why Docprime sees this vertical taking time to pick up. He claims customer feedback will soon form the incentive to push healthcare professionals to digitisation.

Ashish believes the queue management system brings instant value to the customer. "Today, a health check-up takes close to four hours. Through queue management, we can bring this time down to 30 minutes to finish the process." Which means hospitals will be able to process more customers with no extra capex.

Discuss the lean principles adopted by Docprime to modernise the healthcare system.

(10 marks)

b. A company is able to obtain quantity discounts on its order of materials as follows:

Price per kg	Kg bought
0.30	1 – 500 kg
0.29	501 - 1000
0.28	More than 1000

Continued..

The annual demand for the material is 600 kg. Holding costs are 20% per year of the material cost. The order cost is RM8.

i. Should the company go for availing the discount or not? Why?
ii. What is the total ordering and holding costs?
iii. How many order should the company place per year?
iv. If the no. of working days = 250, what is the daily demand?
v. If the lead time 10 days, calculate the ROP.

(10 marks)

Question 5

a. The Johor Furniture Sdn Bhd. has received the following estimates of demand requirements:

July	August	September	October	November	December
4000	4800	5600	7200	7200	7200

i. Assuming one-time stock costs for lost sales of RM200 per unit, inventory carry costs of RM25 per unit per month, RM40 as regular production cost per unit and zero beginning and ending inventory, evaluate these two plans. The firm produced 5000 units in June. The cost of hiring additional workers is RM1500 per 100 units produced. The cost of layoff of RM2500 per 100 units cut back.
   a. Plan A: Produce at a steady rate (equal to minimum requirements) of 4500 units per month and subcontract additional units at a RM60 per unit premium cost. Calculate the total cost.
   b. Plan B: Vary workforce, to produce the respective month's demand and calculate the total cost.

(8 marks)

ii. Which plan is best and why?

(2 marks)

b. A machine centre in a job shop for a local fabrication company has five unprocessed jobs remaining at a particular point of time. The jobs are labelled A1, B2, C3, D4 & E5 in the order in which they arrived the shop. The respective processing times and due dates are given in the following table:

Continued..

Job number	Processing time	Due date
A1	11	61
B2	29	45
C3	31	31
D4	1	33
E5	2	32

Compare the average processing time, utilisation metric, no. of jobs in the system and average tardiness with FCFS, SPT, EDD & LPT sequencing methods and comment on the results.

(10 marks)

END OF PAPER